

CLAIMS

What is claimed is:

1. A method in a data processing system having a plurality of patterns, wherein each of the plurality of patterns has an associated element type, the method comprising the steps of:

- 5 receiving an indication of an element type;
displaying a matching one of the plurality of patterns, the matching pattern having an associated element type that matches the received element type;
receiving from a user an indication of a selection of the matching pattern;
receiving an indication of a variation;
10 modifying the matching pattern based on the variation;
receiving an identification of a language; and
generating software code reflecting the modified matching pattern, wherein the software code is generated in the language.

2. The method of claim 1 further comprising the step of determining whether the variation is suitable for the matching pattern before modifying the matching pattern.

3. The method of claim 1, further comprising the step of storing identification information for the matching pattern in a comment associated with the generated software code.

4. The method of claim 1, wherein the step of generating includes the steps of determining a location for storing the generated software code and storing the generated software code at the location.

5. A method in a data processing system comprising the steps of:
receiving an indication of a pattern;
receiving an indication of a variation;
modifying the pattern based on the variation; and
generating software code reflecting the modified pattern.

6. The method of claim 5 further comprising the step of determining whether the variation is suitable for the pattern before modifying the pattern.

7. The method of claim 5, wherein the generating step further comprises the step of receiving an indication of a language, wherein the software code is generated in the language.

8. The method of claim 5, further comprising the step of storing identification information for the pattern in a comment associated with the generated software code.

9. The method of claim 5, wherein the step of generating includes the steps of determining a location for storing the generated software code and storing the generated software code at the location.

10. A method in a data processing system comprising the steps of:
receiving an indication of a pattern;
generating software code reflecting the pattern; and
storing identification information for the pattern in a comment associated with the generated software code.

11. The method of claim 10, further comprising the steps of:
receiving a variation for the pattern; and
modifying the pattern based on the variation before generating the source code reflecting the modified pattern.

12. The method of claim 11, further comprising the step of determining whether the variation is suitable for the pattern before modifying the pattern.

13. The method of claim 10, wherein the generating step further comprises the step of receiving an indication of a language, wherein the software code is generated in the language.

14. The method of claim 10, wherein the step of generating includes the steps of determining a location for storing the generated software code and storing the generated software code at the location.

15. A method in a data processing system having a pattern, wherein the pattern has a first participant playing a first role in the pattern and a second participant playing a second role in the pattern, the method comprising the steps of:

receiving an indication of a first of a plurality of software elements;

determining whether the first software element is capable of playing the first role;

when it is determined that the first software element is capable of playing the first role,

determining whether a second of the plurality of software elements is capable of playing the second role;

when it is determined that the second software element is capable of playing the second role,

designating that the first software element plays the first role in the pattern; and

designating that the second software element plays the second role in the pattern.

16. The method of claim 15, further including the step of, when it is determined that the second software element is not capable of playing the second role, designating that a missing participant plays the second role in the pattern.

17. The method of claim 15, wherein the step of designating the first software element includes the steps of:

detecting a portion of the first software element; and
replacing the portion of the first software element with at least a portion of the first
participant.

18. The method of claim 15, further comprising the steps of:

receiving an indication of a variation for the first participant; and
modifying the first participant with the variation before the first software element is
designated to play the first role in the pattern.

19. The method of claim 18, further comprising the steps of:

receiving an indication of a second variation for the second participant; and
modifying the second participant with the second variation before the second
software element is designated to play the second role of the pattern.

20. The method of claim 15, further comprising the step of storing identification
information for the pattern in a comment associated with the software code.

21. A method in a data processing system having a pattern, wherein the pattern has a
participant playing a role in the pattern, the method comprising the steps of:

receiving an indication of a software element;
determining whether the software element is capable of playing the role; and
when it is determined that the software element is capable of playing the role,
designating that the software element plays the role in the pattern.

22. The method of claim 21, further including the step of, when it is determined that the
software element is not capable of playing the role, designating that a missing participant
plays the role in the pattern.

23. The method of claim 21, wherein the step of designating includes the steps of:
detecting a portion of the software element; and
replacing the portion of the software element with at least a portion of the
participant.
- 5 24. The method of claim 21, further comprising the steps of:
receiving an indication of a variation for the participant; and
modifying the participant with the variation before the software element is
designated to play the role in the pattern.
- 10 25. The method of claim 21, further comprising the step of storing identification
information for the pattern in a comment associated with the code.
26. The method of claim 21, wherein the participant is one of a plurality of participants.
- 15 27. A method in a data processing system for creating a pattern having a first participant
with a first role name, and a second participant with a second role name, wherein the pattern
is based on code having a first software element with a first coded name and a second
software element with a second coded name, the method comprising the steps of:
receiving an indication of the first software element;
receiving an indication that the first software element corresponds to the first
participant;
replacing the first coded name of the first software element with the first role name
of the first participant;
receiving an indication of the second software element;
receiving an indication that the second software element corresponds to the second
participant;
replacing the second coded name of the second software element with the second
role name of the second participant; and
storing the code with the first coded name and the second coded name as the pattern.
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28. A method in a data processing system comprising the steps of:
displaying a plurality of software elements to a user;
receiving an indication of a selected one of the plurality of software elements;
receiving an indication of a user-defined pattern role that the selected software
5 element plays in a pattern; and
storing the plurality of software elements as the pattern.

29. A computer-readable medium containing instructions for controlling a data
processing system to perform a method, the data processing system having a plurality of
patterns, wherein each of the plurality of patterns has an associated element type, the method
10 comprising the steps of:

receiving an indication of an element type;
displaying a matching one of the plurality of patterns, the matching pattern having an
associated element type that matches the received element type;
receiving from a user an indication of a selection of the matching pattern;
15 receiving an indication of a variation;
modifying the matching pattern based on the variation;
receiving an identification of a language; and
generating software code reflecting the modified matching pattern, wherein the
software code is generated in the language.

30. The computer-readable medium of claim 29, wherein the method further comprises
the step of determining whether the variation is suitable for the matching pattern before
modifying the matching pattern.

31. The computer-readable medium of claim 29, wherein the method further comprises
the step of storing identification information for the matching pattern in a comment
25 associated with the generated software code.

32. The computer-readable medium of claim 29, wherein the step of generating includes the steps of determining a location for storing the generated software code and storing the generated software code at the location.

33. A computer-readable medium containing instructions for controlling a data processing system to perform a method, the data processing system, the method comprising the steps of:

receiving an indication of a pattern;
receiving an indication of a variation;
modifying the pattern based on the variation; and
generating software code reflecting the modified pattern.

34. The computer-readable medium of claim 33, wherein the method further comprises the step of determining whether the variation is suitable for the pattern before modifying the pattern.

35. The computer-readable medium of claim 33, wherein the generating step further comprises the step of receiving an indication of a language, wherein the software code is generated in the language.

36. The computer-readable medium of claim 33, wherein the method further comprises the step of storing identification information for the pattern in a comment associated with the generated software code.

37. The computer-readable medium of claim 33, wherein the step of generating includes the steps of determining a location for storing the generated software code and storing the generated software code at the location.

43. A computer-readable medium containing instructions for controlling a data processing system to perform a method, the data processing system having a pattern, wherein the pattern has a first participant playing a first role in the pattern and a second participant playing a second role in the pattern, the method comprising the steps of:

- 5 receiving an indication of a first of a plurality of software elements;
determining whether the first software element is capable of playing the first role;
when it is determined that the first software element is capable of playing the first
role,
determining whether a second of the plurality of software elements is capable
10 of playing the second role;
when it is determined that the second software element is capable of playing
the second role,
designating that the first software element plays the first role in the
pattern; and
15 designating that the second software element plays the second role in
the pattern.

44. The computer-readable medium of claim 43, wherein the method further includes the step of, when it is determined that the second software element is not capable of playing the second role, designating that a missing participant plays the second role in the pattern.

- 20 45. The computer-readable medium of claim 43, wherein the step of designating the first software element includes the steps of:
detecting a portion of the first software element; and
replacing the portion of the first software element with at least a portion of the first
participant.

46. The computer-readable medium of claim 43, wherein the method further comprises the steps of:

receiving an indication of a variation for the first participant; and
modifying the first participant with the variation before the first software element is
designated to play the first role in the pattern.

47. The computer-readable medium of claim 46, wherein the method further comprises the steps of:

receiving an indication of a second variation for the second participant; and
modifying the second participant with the second variation before the second
software element is designated to play the second role of the pattern.

48. The computer-readable medium of claim 43, wherein the method further comprises the step of storing identification information for the pattern in a comment associated with the software code.

49. A computer-readable medium containing instructions for controlling a data processing system to perform a method, the data processing system having a pattern, wherein the pattern has a participant playing a role in the pattern, the method comprising the steps of:

receiving an indication of the software element;
determining whether the software element is capable of playing the role; and
when it is determined that the software element is capable of playing the role,
designating that the software element plays the role in the pattern.

50. The computer-readable medium of claim 49, wherein the method further includes the step of, when it is determined that the software element is not capable of playing the role, designating that a missing participant plays the role in the pattern.

55. A computer-readable medium containing instructions for controlling a data processing system to perform a method, the data processing system having a pattern having a first participant with a first role name, and a second participant with a second role name, wherein the pattern is based on code having a first software element with a first coded name and a second software element with a second coded name, the method comprising the steps of:

receiving an indication of the first software element;
receiving an indication that the first software element corresponds to the first participant;
10 replacing the first coded name of the first software element with the first role name of the first participant;
receiving an indication of the second software element;
receiving an indication that the second software element corresponds to the second participant;
15 replacing the second coded name of the second software element with the second role name of the second participant; and
storing the code with the first coded name and the second coded name as the pattern.

56. A computer-readable medium containing instructions for controlling a data processing system to perform a method, the data processing system, the method comprising the steps of:

displaying a plurality of software elements to a user;
receiving an indication of a selected one of the plurality of software elements;
receiving an indication of a user-defined pattern role that the selected software element plays in a pattern; and
25 storing the plurality of software elements as the pattern.

63. The data processing system of claim 62, wherein the program, when it is determined that the software element is not capable of playing the role, designates that a missing participant plays the role in the pattern.

64. The data processing system of claim 62, wherein when designating, the program
5 detects a portion of the software element, and replaces the portion of the software element with at least a portion of the participant.

65. The data processing system of claim 62, wherein the program further receives an indication of a variation for the participant, and modifies the participant with the variation before the software element is designated to play the role in the pattern.

10 66. The data processing system of claim 62, wherein the program further stores identification information for the pattern in a comment associated with the code.

67. The data processing system of claim 62, wherein the participant is one of a plurality of participants.

15 68. A data processing system comprising:
a memory device further comprising a program that displays a plurality of software elements to a user, receives an indication of a selected one of the plurality of software elements, receives an indication of a user-defined pattern role that the selected software element plays in a pattern, and stores the plurality of software elements as the pattern; and
20 a processor for running the program.

69. A system comprising:
means for receiving an indication of a pattern;
means for generating software code reflecting the pattern; and
means for storing identification information for the pattern in a comment associated
25 with the generated software code.

57. A data processing system comprising:

a memory device further comprising a program that receives an indication of a pattern, that receives an indication of a variation, that modifies the pattern based on the variation, and that generates software code reflecting the modified pattern; and

5 a processor for running the program.

58. The data processing system of claim 57, wherein the program further determines whether the variation is suitable for the pattern before modifying the pattern.

59. The data processing system of claim 57, wherein the program receives an indication of a language and generates the software code in the language.

10 60. The data processing system of claim 57, wherein the program further stores identification information for the pattern in a comment associated with the generated software code.

15 61. The data processing system of claim 57, wherein the program determines a location for storing the generated software code and stores the generated software code at the location.

62. A data processing system comprising:

a memory device further comprising:

pattern having a participant playing a role in the pattern; and

a program that receives an indication of the software element, that determines whether the software element is capable of playing the role, and when it is determined that the software element is capable of playing the role, that designates that the software element plays the role in the pattern; and

20 a processor for running the program.

70. A method in a data processing system having source code, the method comprising the steps of:

detecting in the source code a first pattern; and

replacing the first pattern with a second pattern that is different than the first pattern.

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